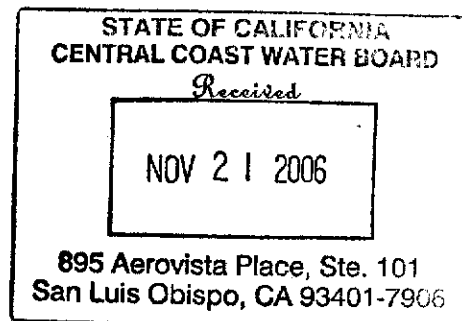


CAL POLY

California Polytechnic State University
San Luis Obispo, CA 93407
Risk Management

November 21, 2006

Matt Thompson
Water Resources Control Engineer
Enforcement Division
Regional Water Quality Control Board
Central Coast Region
895 Aerovista Place, Suite 101
San Luis Obispo, CA 93401



SUBJECT: REVISED SUPPLEMENTAL ENVIRONMENTAL PROJECT PROPOSAL

Dear Matt:

Thank you for the opportunity to revise Cal Poly's Supplemental Environmental Project Proposal. In partnership with the Land Conservancy of San Luis Obispo County, we have developed a proposal that we believe will meet the requirements of the *Water Quality Enforcement Policy*. The proposed project titled "*Cheda Ranch - Revegetation Plan*" will provide riparian vegetation enhancement to Stenner Creek near the area of the old Cheda Dairy on the Cal Poly campus. The project involves revegetation of approximately 0.42 acres of streambank with about 1110 shrub and 95 tree species.

The proposal is attached for your review and approval. Please contact me should you have any questions.

Sincerely,

A handwritten signature in black ink, appearing to read "Kim Busby".

Kim Busby, CP6WQ
Water Quality Management Specialist
Environmental Health & Safety
California Polytechnic State University
San Luis Obispo, CA 93407-0651
(805) 756-6664
kbusby@calpoly.edu

Attachment: (Cheda Ranch Revegetation Plan)

cc: Lawrence Kelley – Administration & Finance
Joe Risser – Risk Management
Mark Shelton – College of Agriculture, Food and Environmental Science
Gary Ketcham – Farm Operations

CHEDA RANCH - REVEGETATION PLAN

Stenner Creek – Cal Poly State University Campus

Introduction

The Land Conservancy of San Luis Obispo County, in partnership with Cal Poly State University, are proposing that the following project be implemented along Stenner Creek on the Cal Poly Campus. Upon approval, the project will be implemented in February of 2007 or Fall of 2007, depending on site conditions. The budget allows for planning, implementation, maintenance, and monitoring of the project over a five-year period.

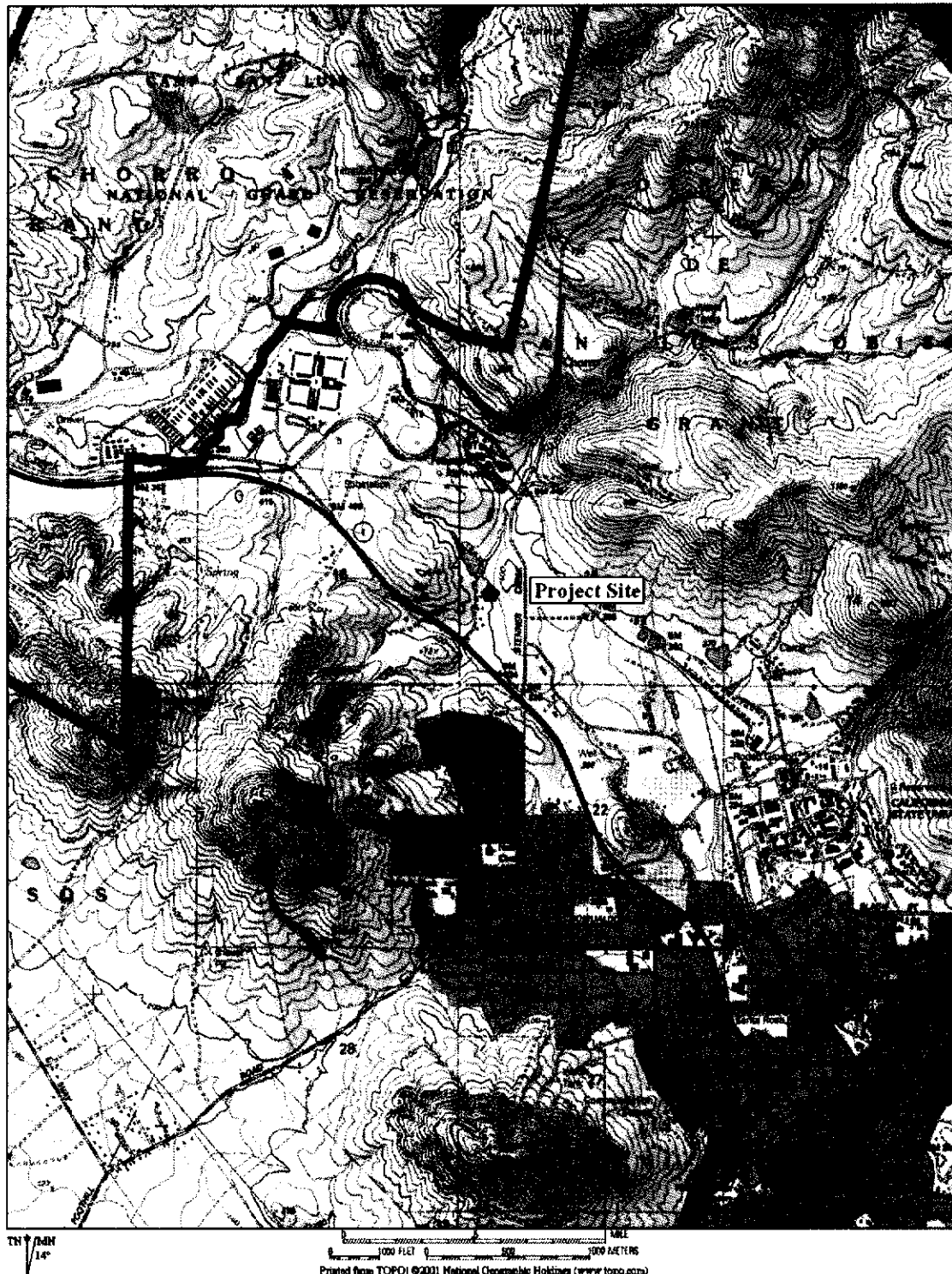
This proposal is for revegetation of 0.42 acres of streambank along Stenner Creek, a tributary to San Luis Obispo Creek. The purpose is to improve water quality and steelhead trout habitat by installing native shrub and canopy cover and repairing one small vertical eroding bank along the sheep pasture at the north end of the ranch (Figure 1).



Figure 1. Vertical eroding bank.

Site Description

Location: This site is located along Stenner Creek at Cal Poly's Cheda Ranch. The property is owned by Cal Poly State University. Please see Figure 2 below.



Soils: The soils on this site are Salinas Silty Clay Loam and Riverwash. Salinas Silty Clay Loam is not well drained, has moderate to high erosion potential, and moderate shrink-swell tendencies. Riverwash dominates the floodplain along the riparian corridor at northern end of the ranch (See Figure 3). Irrigation will be necessary for the first summer to assure plant establishment.

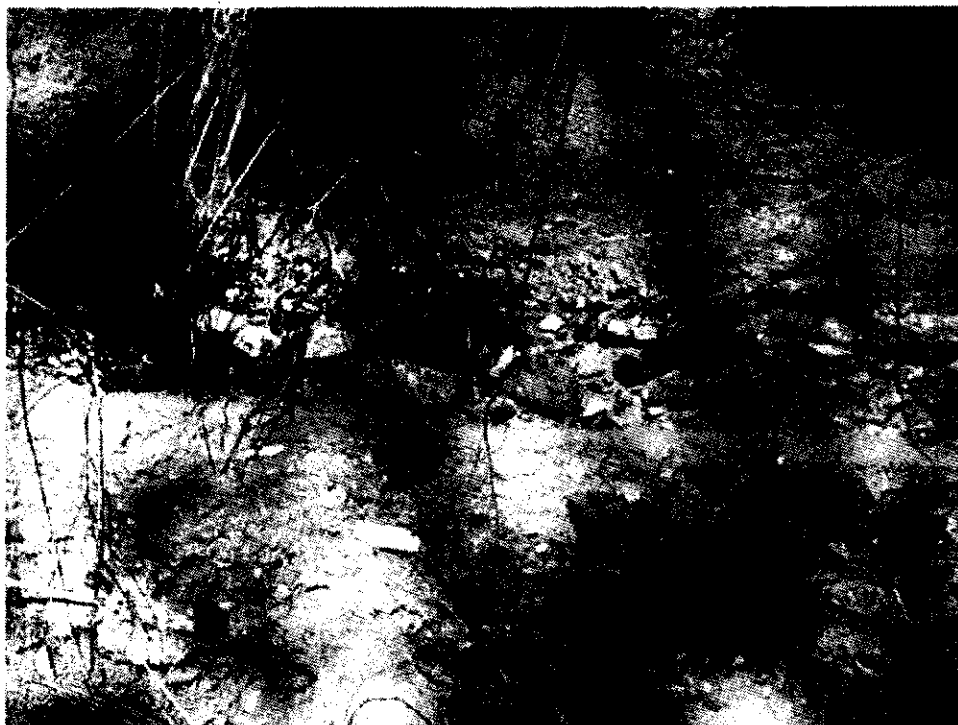


Figure 3. Evidence of alluvial deposits in Riverwash soil of Floodplain.

Existing Vegetation: The streambanks are dominated by willow (*Salix*), young Sycamores (*Platanus*), and Coyote Brush (*Baccharis*) (Figure 4). There are also some scattered Coast Live Oaks. The dominant vegetation above the banks includes annual grasses, exotic thistles, and Harding Grass.

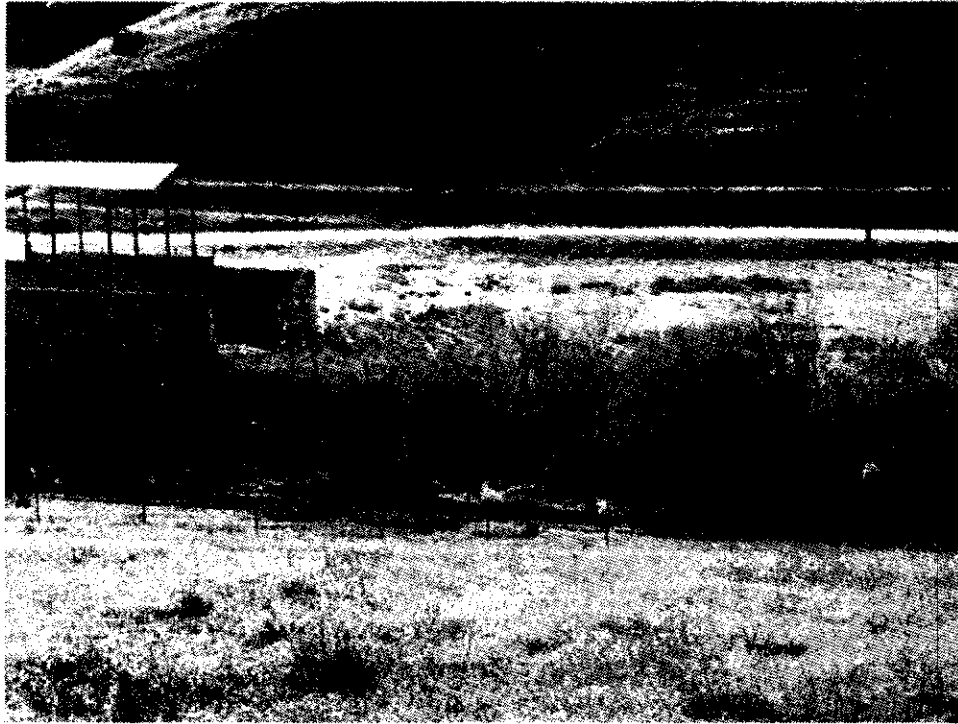


Figure 4. Riparian Corridor

Long Term Land Management: The University grazes the pasture and riparian corridor with sheep with a management regime coordinated by Animal Science Department faculty and students, and the Land Conservancy. A ten-year access and grazing management agreement was signed for this site in 1999.

Riparian Enhancement Goals: To establish a diverse riparian vegetation community on the banks of Stenner Creek by installing native riparian plants. A diverse riparian corridor has been shown to reduce erosion, trap sediment from floodwaters, provide shade over the creek, and provide a diversity of instream and riparian habitats (CDFG, 1998). This project will also seek to stabilize a vertical eroding streambank along the pasture edge on the floodplain.

Implementation Plan

Responsible parties: The responsible parties to this riparian enhancement project are the Land Conservancy of San Luis Obispo County and the California Polytechnic State University. The Land Conservancy will be responsible for project planning, reporting, monitoring, and fiscal management. Cal Poly will provide funding for the project and will continue to manage the land and grazing operations.

The Land Conservancy has extensive revegetation experience along Stenner Creek and throughout the San Luis Obispo Creek Watershed. The Conservancy currently holds a 10 year exclusive license agreement and land management agreement with the University that provides access for the project installation, maintenance, and monitoring.

Planting areas: Plant installation will be performed in areas along the stream that currently have gaps in the riparian corridor. Some nice young canopy trees exist onsite

so the project will concentrate on developing healthy native shrub cover in the areas where none exist to fill in the gaps. The shrubs will be planted to help form a 30 ft riparian buffer along the main stem of Stenner Creek. The corridor along the streambank in the northern sheep pasture will consist of all new plantings at a width of 25 ft and a length of 175 ft. The total planting area for the entire project will be 0.42 acres.

A. Implementation Schedule

Site preparation and planting will begin in February, 2007 and extend through March, 2007 depending on site conditions (it may be pushed to Fall of 2007). Supplemental irrigation will be performed over a 3-year period and weed control and spot irrigation maintenance will be ongoing over a 5-year period.

B. Site Preparation

Site preparation will begin with removal of exotic plant species such as Italian thistle. The Restoration Ecologist will assist with plant layout design. The irrigation system will be easy to setup, as the infrastructure already exists. The streambank along the northern sheep pasture will be prepared for planting by first softening the bank slope with managed intensive grazing while the stream is dry, fencing the corridor, and planting willow stakes.

C. Plant Selection and Installation

Plants used in this project will consist of species native to the riparian corridors throughout the watershed. Planting in the areas void of riparian vegetation will be undertaken in a linear method to assure the desired density. The infill areas will be planted with clusters of shrubs as needed. The total number of shrubs to be planted will be approximately 1100. The total number of trees (5-gallon size) to be planted will be 95.

Plant Palette:

Trees		Shrubs
California Sycamore -	<i>Platanus racemosa</i>	Coyote Brush - <i>Baccharis pilularis</i>
Coast Live Oak -	<i>Quercus agrifolia</i>	Elderberry - <i>Sambucus mexicana</i>
Box Elder -	<i>Acer negundo</i>	Coffeeberry - <i>Rhamnus californica</i>
Willow -	<i>Salix</i>	Black Sage - <i>Salvia mellifera</i>
		Snowberry - <i>Symphoricarpos albus</i>
		Mugwort - <i>Artemesia douglasiana</i>
		Pink Flowered
		Currant - <i>Ribes sanguineum</i>

Tree species will be planted in an irregular pattern at approximately 10-ft centers. Shrubs will be installed at approximately 4-ft centers. Plants will be installed into holes dug to the depth of a 1-gallon container and diameter 1-2 inches wider in diameter than the 1-gallon container. The holes will be flooded prior to plant installation and a waterwell capable of holding 2 or more gallons of water will be created around each plant. Following installation, the plant will be watered to fill the waterwell.

Wood chip mulch will surround each plant to a depth of 4 inches and in an area measuring 4 feet in diameter. Where possible, areas between plants will also be covered with mulch to control weed growth and maintain soil moisture. Disturbed areas will be seeded with a perennial seed mix and mulched with perennial native straw. The seed mix will include these species:

Scientific	Common
<i>Bromus carinatus</i>	California Brome
<i>Leymus triticoides</i>	Creeping Wildrye
<i>Hordeum brachyantherum</i>	Meadow Barley
<i>Elymus glaucus</i>	Blue Wildrye
<i>Vulpia microstachys</i>	Small Fescue
<i>Deschampsia elongata</i>	Slender Hairgrass
<i>Deschampsia cespitosa</i>	Tufted Hairgrass
<i>Festuca californica</i>	California Fescue
<i>Trifolium tridentatum</i>	Tomcat Clover
<i>Achillea millefolium</i>	White Yarrow
<i>Viola pedunculata</i>	Johnny Jump Up
<i>Castilleja exserta</i> var.	Owls Clover
<i>Lupinus bicolor</i>	Sky Lupine
<i>Lotus scoparius</i>	Deerweed
<i>Nassella pulchra</i>	Purple Needle Grass

All tree species will be planted in lower areas with better access to groundwater. Willow will be used closest to the stream and along the stream banks for erosion control. Willow cuttings will be planted according to the specifications listed in the California Department of Fish and Game's "California Salmonid Stream Habitat Restoration Manual".

Irrigation:

Irrigation will be by hose connected to PVC hardline (3/4 in.) as needed. Hoses will run off a PVC main line with outlets. Soil moisture will be monitored weekly on the site for the first month. Irrigation will begin on a cycle of once each 7 days and will be adjusted to once every 14 days based on monitoring and weather conditions. Once 3 inches of rain occurs in the first winter, irrigation will be discontinued.

D. Project Maintenance

Project maintenance will consist primarily of ongoing plant replacement, weed management and irrigation. Monthly visual monitoring for the first year will show areas requiring weed maintenance work and indicate soil moisture conditions. The irrigation

system will also be monitored for damage and repaired if necessary, or reinstalled as needed.

E. Long Term Monitoring

Monitoring will occur annually in spring and be composed of both qualitative (photo-point) and quantitative (aerial cover, plant counts) methodologies.

Qualitative Methods:

- ◆ Photographic reference points.

Quantitative Methods:

- ◆ Plant count (survivorship).
- ◆ Line-intercept (plant cover/aerial cover).

Methodology for Data Collection

Photo Points:

Annual monitoring will include photographs taken at photo points. Photographic reference points will be recorded at the start and end of each transect. All photo-point locations will be recorded in a GPS and mapped using GIS. A transect and photo-point map will be provided in the annual report.

Plant Count:

Survivorship of installed native container stock will be determined by plant count. Annual census of surviving installed stock will determine planting success and will inform any remedial actions. Survivorship will be determined by dividing the surviving installed stock determined by the plant count, into the total number installed. Due to the high number of plants installed, survivorship of a randomly chosen representative sample (100 plants) will be determined annually.

Plant Cover:

Plant cover will be recorded using the line-intercept technique along a non-permanent line-transect. The locations of the line transects will be selected randomly. The planting area will be divided into nodes and one 100 ft. transect will be installed within each of the nodes. Using a random number chart, a number will be generated for each transect and will serve as the starting point.

To avoid any overlap of transects, if the starting point is greater than the halfway mark of the node, the transect will run upstream. If the starting point is less than the halfway mark of the node, the transect will run downstream.

These transects are not permanent, and will be temporarily marked for the duration of the data collection for each monitoring period. New transects will be installed each monitoring period using the same selectively random method described above.

Cover data will be collected for each species, dead plant material, and bare ground. Following data collection percent cover will be determined for each of the above categories. Percent cover data will be further divided as to whether each species recorded is native or exotic.

Performance Standards and Success Criteria

This project will be considered successful if there is a 70% survival rate of installed container stock and 80% of the plant cover is comprised of native plants by the end of year five. Appropriate remedial actions will occur should data collection reveal a failure to meet the stated objective above.

F. Monitoring / Reporting Schedule

Annual Monitoring will occur each April for 5 years. Cal Poly can expect the following reports on the established dates. Reports will also be sent to the Regional Water Quality Control Board if necessary.

May 31st, 2007 – Baseline monitoring report: to contain plant count data and photographs.

May 31st, 2008 – First annual monitoring report: see above

May 31st, 2009 – Second annual monitoring report: see above

May 31st, 2010 – Third annual monitoring report: see above

May 31st, 2011 – Fourth annual monitoring report: see above

May 31st, 2012 – Fifth annual monitoring report: see above

Project Budget

The proposed budget is \$54,898.00 for the Land Conservancy to complete the described project. Please see below for details.

Task	Unit	Quantity	Rate	Cost
Task 1: Planning, Design, Materials Orders				
Project Manager	Hour	32	\$ 70.00	\$ 2,240.00
Restoration Ecologist	Hour	8	\$ 60.00	\$ 480.00
Subtotal				\$ 2,720.00
Task 2: Site Preparation and Implementation				
Personnel				
Project Manager	Hour	40	\$ 70.00	\$ 2,800.00
Field Manager	Hour	96	\$ 60.00	\$ 5,760.00
LC Field Staff 1	Hour	88	\$ 40.00	\$ 3,520.00
LC Field Staff 2	Hour	88	\$ 40.00	\$ 3,520.00
Materials				
5-Strand Barbed Wire Fence (labor and materials)	Linear ft	500	\$ 7.50	\$ 3,750.00
Plants (Shrubs)	Each	1100	\$ 4.50	\$ 4,950.00
Plants (Trees)	Each	95	\$ 10.00	\$ 950.00
Willow Cuttings (labor and materials)	Each	450	\$ 1.50	\$ 675.00
Perennial "Native" Straw	Each	14	\$ 7.50	\$ 105.00
Mulch	Cu Yd	55	\$ 21.00	\$ 1,155.00
Seed (at 41 lbs. per acre)	Lbs	16	\$ 48.00	\$ 768.00
Herbicide (Rodeo)	Gal	2	\$ 100.00	\$ 200.00
Misc Supplies - hand tools, erosion control products, etc.	Lump	1	\$ 250.00	\$ 250.00
Subtotal				\$ 28,403.00
Contingency (15% of implementation total - additional fencing, plants etc.)				\$ 4,255.00
Overall Subtotal				\$ 32,658.00
Task 3: Project Monitoring				
Project Manager (Two site visits per year for 3 years)	Hour	24	\$ 75.00	\$ 1,800.00
Restoration Ecologist (Initial setup on year 1)	Hour	24	\$ 60.00	\$ 1,440.00
Restoration Ecologist (Annual monitoring for 4 years)	Hour	48	\$ 60.00	\$ 2,880.00
Subtotal				\$ 6,120.00
Task 4: Site Maintenance				
Project Manager (3 hours coordination per year for 5 years)	Hour	20	\$ 70.00	\$ 1,400.00
Field Manager (4 days of work per year for 5 years)	Hour	120	\$ 60.00	\$ 7,200.00
LC Field Staff 1 (4 days of work per year for 5 years)	Hour	120	\$ 40.00	\$ 4,800.00
Subtotal				\$ 13,400.00
TOTAL				\$ 54,898.00